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## Pearlfishes

John E. Olney  
*Virginia Institute of Marine Science*

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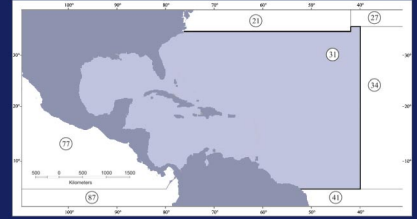
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THE LIVING MARINE RESOURCES OF THE  
**WESTERN CENTRAL  
ATLANTIC**



**Volume 2 Bony fishes part 1 (Acipenseridae to Grammatidae)**



AMERICAN  
SOCIETY OF  
ICHTHYOLOGISTS  
AND  
HERPETOLOGISTS



FOOD AND  
AGRICULTURE  
ORGANIZATION  
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FAO SPECIES IDENTIFICATION GUIDE FOR FISHERY PURPOSES  
and  
AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS  
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# **THE LIVING MARINE RESOURCES OF THE WESTERN CENTRAL ATLANTIC**

**VOLUME 2**

**Bony fishes part 1 (Acipenseridae to Grammatidae)**

edited by

**Kent E. Carpenter**

Department of Biological Sciences  
Old Dominion University  
Norfolk, Virginia, USA

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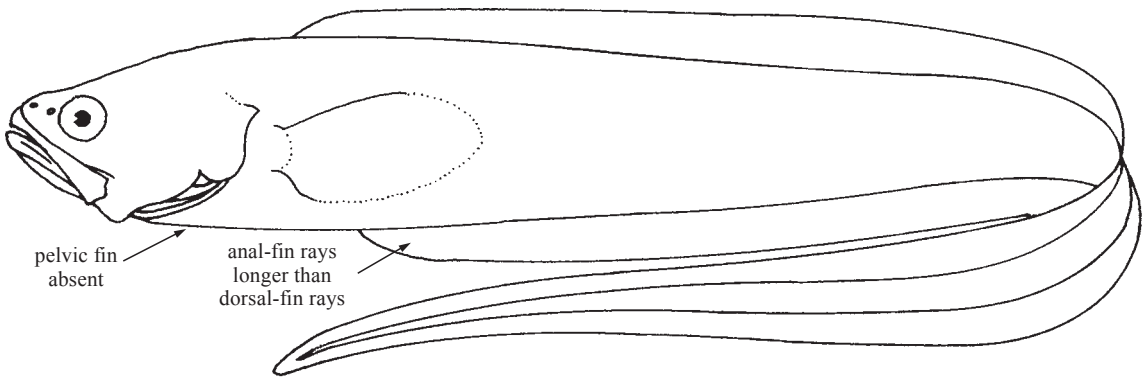
## Order OPHIDIIFORMES

## CARAPIDAE

## Pearlfishes

by J.E. Olney, Virginia Institute of Marine Science, USA

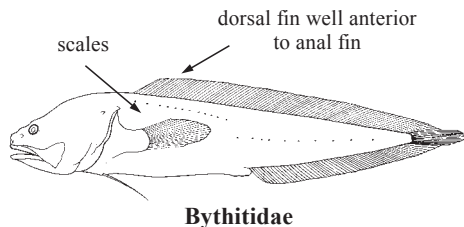
**Diagnostic characters:** Small to moderate-sized, eel-like fishes; scales absent; body elongate and usually cylindrical, its depth gradually decreasing from the head to a slender tail tip; head length (tip of snout to edge of gill covers) about 10 to 15% of total length; upper jaw teeth either fang-like or small, heart-shaped; lower jaw teeth fang-like in some species; 1 to several teeth on roof of mouth. Dorsal-fin rays anterior to the thirtieth vertebra 19 to 53; **anal-fin rays longer than opposing dorsal-fin rays**; **anal-fin origin and anus positioned far forward, usually under the pectoral fin**; anal-fin rays anterior to the thirtieth vertebra 36 to 63; caudal fin and associated skeleton absent in most species; pectoral-fin rays 13 to 30 (pectoral fin absent in one species); **pelvic fins absent** in all but 1 genus (*Pyramodon*, not in area); **larvae possess a long, ornamented predorsal filament** that is lost at metamorphosis; eggs are deposited in a floating mucous mat. **Colour:** not brightly coloured; usually tan or cream with small black spots scattered over the body or larger black spots concentrated on top of head and along the dorsal and ventral margins of body; some species have more conspicuous black saddles of pigment along body margins and body midline.



**Habitat, biology, and fisheries:** Widely distributed throughout tropical and temperate seas. While some species are free living, adults of most pearlfish species exhibit the highly specialized behaviour of living within the body cavities of invertebrate hosts such as sea cucumbers, clams, sea squirts, and sea stars. Some of these species exit their host at night to feed on small fishes and shrimps. Other species are parasitic, never leaving the host and feeding on its internal organs. There are 31 species in 7 genera; 3 species in the area but these are rarely collected. Pearlfishes in the area include a deep-sea species (*Snyderidia canina*) that is free living; a shallow-water species (*Carapus bermudensis*) that lives inside sea cucumbers (especially the genera *Actinopyga* and *Holothuria*); and a shallow-water species (*Echiodon dawsoni*) that is probably free living but may associate with colonies of tube worms. There is no fishery for pearlfishes, although some species in the Pacific and Indian Oceans are a bycatch of some invertebrate fisheries such as pearl oysters and sea cucumbers (bêche de mer).

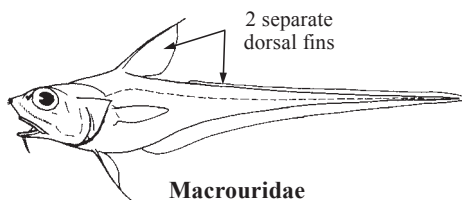
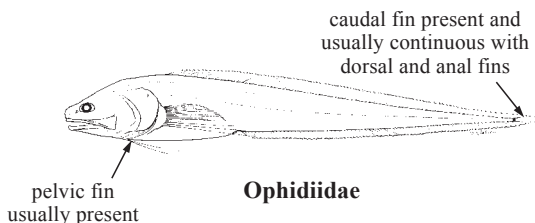
**Similar families occurring in the area**

**Bythitidae:** most species have scales; caudal fin present although sometimes continuous with dorsal- and anal-fin rays; pelvic fins usually present; dorsal fin well anterior of anal fin; anal- and dorsal-fin rays about equal in length; viviparous (live bearing) fishes; males with externally visible intromittent organs.



**Ophidiidae:** caudal fin present and usually continuous with dorsal- and anal-fin rays; dorsal-fin rays equal in length or longer than anal fin rays; pelvic fins usually present.

**Steindachneriidae and Macrouridae (especially young stages):** 2 separate dorsal fins; pelvic fins present; abdominal area often darkly pigmented.



**Key to the species of Carapidae occurring in the area**

- 1a. The first ray of the dorsal fin is anterior to the first ray of the anal fin . . . . . *Snyderidia canina*
- 1b. The first ray of the dorsal fin is well posterior to the first ray of the anal fin . . . . . → 2
- 2a. The upper jaw has 1 or 2 pairs of large fangs and no small, heart-shaped teeth; usually found free living and not associated with sea cucumbers (holothurians). . . . . *Echiodon dawsoni*
- 2b. The upper jaw lacks large fangs and there are many small, heart-shaped teeth; found inside the body cavity of sea cucumbers (holothurians) . . . . . *Carapus bermudensis*

**List of species occurring in the area**

*Carapus bermudensis* (Jones, 1874). 11 to 37 cm TL. W shores of the Atlantic, Bermuda, and Caribbean Sea S to Brazil.

*Echiodon dawsoni* Williams and Shipp, 1982. 8 to 11 cm TL. W shores of the Atlantic, Bermuda, and Caribbean Sea S to Brazil.

*Snyderidia canina* Gilbert, 1905. 15 to 27 cm TL. Deep waters throughout the area and other tropical seas.

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